

REMARKS/ARGUMENTS

Claims 6-14 are pending in the application. By this amendment, claims 6-10 are being amended to improve their form.

At the top of page 2 of the Office Action, the specification is objected to because the "control circuit" set forth in some of the claims said to lack antecedent basis. In response, and by way of explanation, Applicants point out that the control circuit is the portion of the charge pump type power supply circuit which controls the supply of a power supply clock to the charge pump circuit. A boosted voltage is obtained at the output of the charge pump circuit by supplying the power supply clock to a plurality of switches to switch the switches on and off. This concept is clearly disclosed in the application. The expression "control circuit" refers to the part of the disclosed system which accomplishes this. It is a general label which may not be specifically disclosed. Applicant can change it to another label to or to a "mean" recitation if this would help.

Further, at the bottom of page 2 of the Office Action, claim 6 is objected to because the power supply clock is said not to be connected to anything. By way of explanation, the power supply clock is used to control switching on and off of the charge pump. Claim 6 is being amended to further define the power supply clock which is generated in accordance with a system clock as "coupled to be provided to the first switch and the second switch".

In response to the objection at lines 4 and 5 of page 3 of the Office Action, claims 7, 9 and 10 are being amended to clarify that the circuit referred to is the charge pump type power supply circuit.

Claim 7 depends from and further defines claim 6 in terms of additional limitations. In accordance with those limitations, a power save instruction is

received, and a power supply clock generating circuit (T-C18) suspends output of the power supply clock (refer to Fig. 5). With this suspension, the switching of the charge pump is suspended and the generation of the boosted voltage by the charge pump is also suspended.

The eighth line of claim 10 is being amended to introduce "an input voltage" so as to provide antecedent basis for the subsequent reference thereto. This has already been done with respect to the fourth line of claim 13.

With respect to the objection to claim 12 on page 3 of the Office Action, Applicants wish to clarify that there are indeed a total of two charge pump circuits. This is clearly recited in the second line of claim 12.

Also, on page 3 of the Office Action, it is said with respect to claim 14 that it is unclear how the two boosted voltages and the two power supply clocks can be generated, what the panel and driving circuit are, where they come from and how they are relevant to the components recited in claim 6. By way of explanation, Applicants wish to note that in each of the two charge pump circuits, a boosted voltage is generated. The display panel is a circuit for receiving a drive signal and displaying, and the drive circuit is a circuit for converting a video signal from outside into a drive signal for driving the display panel and for supplying the drive signal to the display panel.

On page 4 of the Office Action, claim 6, 13 and 14 are rejected under 35 U.S.C. § 103(b) as being unpatentable over USP 5,859,632 of Ito. On the same page, claim 7-12 are rejected under 35 U.S.C. § 103(b) as being unpatentable over Ito '632 in view of USP 5,847,702 of Jung. These rejections are respectfully traversed.

The Ito '632 reference has been carefully reviewed. Although it discloses shifting of a reference voltage while maintaining a voltage difference in a switched capacitor circuit, such reference fails to disclose or suggest boosting of the voltage in

the manner of the present invention. The attempted addition of the Jung '702 reference thereto fails to cure this basic defect in the Ito '632 reference.

Claims 6-14 are submitted to clearly distinguish patentably over such references. Claim 6 defines a charge pump power supply circuit in which a boosted voltage is generated in accordance with the invention. Similarly, claim 8 defines a driving apparatus in which an input voltage is boosted as does claim 10. And in claim 14, it is recited that two boosted voltages are generated.

In addition, independent claims 8 and 10 are being further amended to add additional limitations further defining the charge pump circuit similar to those contained in claim 6. More specifically, the charge pump type power supply circuit of each claim is further defined in terms of "the plurality of switches connecting a first one of the plurality of capacitors to either a second one of the plurality of capacitors or to an input voltage". And in both claims, the power supply clock is further defined as "being provided to the plurality of switches".

Therefore, claim 6-14 are submitted to clearly distinguish patentably over the art. In conclusion, claims 6-14 are submitted to be in condition for allowance for the reasons described above. Therefore, reconsideration and allowance are respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6846 to discuss the steps necessary for placing the application in condition for allowance.

Appl. No. 09/823,328
Amdt. Dated December 4, 2003
Reply to Office Action of June 4, 2003

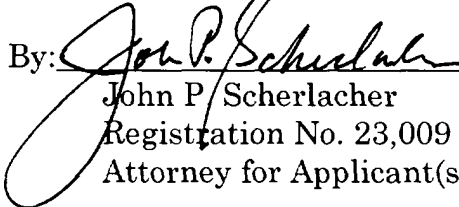
Attorney Docket No. 81784.0233
Customer No.: 26021

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Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: December 4, 2003

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